Motozi TAGAWA*: **Fern miscellany (11)**

田川基二*: 羊歯類雑説 (11)

(105) **Selaginella remotifolia** Spring in Miq. Pl. Jungh. 276. 1854, type from Sumatra; Tagawa, Acta Phytotax. Geobot. **10**: 193. 1941.

Selaginella kelungensis Hayata, Ic. Pl. Formos. **7**: 97. fig. 59. 1918, lectotype from Taiwan; Koidz. Acta Phytotax. Geobot. **4**: 228. 1935, excl. syn.

In the broad sense, this species occupies a wide range of distribution, from New Guinea through Malaysia to China, Taiwan, the Ryûkyûs, and Japan; the Japanese plants perhaps represent a variety, var. *japonica* (Miq.) Koidz. loc. cit. In the Ryûkyûs, it is found only at both ends of that archipelago, Isl. Yonakuni and Isl. Amami-Ooshima. The following specimens have been examined:

Isl. Yonakuni: without exact locality, Koidzumi s.n. (KYO), Walker et al. 6863 (KYO), Hatusima 24258 (KAG, KYO). Isl. Amami-Ooshima: Nase, Ohba 160 (KYO), Hatusima 20318 (KAG), Koidzumi s.n. (KYO); Kaneku to Asani in Nase, Iwatsuki 4704 (KYO); Kinsakubaru, Iwatsuki 4594 (KYO); Mt. Yuwan-dake, Hatusima & Sako 21798 (KAG); without exact locality, Faurie s.n. (KYO).

One who first recorded *S. kelungensis* accurately from the Ryûkyû Islands is the late Prof. Koidzumi. He also reduced *S. limbata* Alston1) to its synonym. The writer can not understand his treatment, for the specimens in KYO identified by him prove that he had a proper understanding of both the species. *S. limbata* is a distinct species, known at present only fron Kwangtung, Hongkong, and Isl. Amami-Ooshima. An examination of the syntypes of *S. kelungensis*, however, shows the writer that it agrees well with *S. remotifolia*.

Hayata described *S. kelungensis* on the basis of the following four specimens from Taiwan:

Monte centrali, leg. U. Mori, Dec. 1908; Shichiseitonzan, leg. Y. Shimada; Kelung, leg. T. Soma; Chikushiko, leg. S. Nagasawa. Of these, the first and the last are found in TI. The syntype first listed may be designated as the lectotype. Shimada 5184 from Mt. Shichisei preserved in KYO may be a duplicate of the second syntype.

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1) Journ. Bot. **70**: 62. 1932; Bull. Fan Mem. Inst. Biol. **5**: 275. 1934.

(106) **Equisetum variegatum** Schleich. ex Weber et Mohr, Bot. Taschenb. Jahr. **1807**. 60, 447; Miyabe et Kudo, Fl. Hokk. Saghal. 50. 1930; Tagawa, Col. Ill. Jap. Pterid. 25, 216. 1959.

JAPAN. Hokkaidô. Kamikawa-shichô: Mt. Yûbaridake, Koidzumi s.n. (KYO); Kanayama, Ohwi 5275 (KYO).

Widely distributed in the temperate regions of the northern hemisphere. This is perhaps the first record for the flora of Hokkaidô; the above cited specimens are referable to f. *anceps* (Milde) Broun.

(107) **Marattia pellucida** Pr. Suppl. Tent. Pter. 10. 1845, type from the Philippines; Copel. Phil. Journ. Sci. **4**: 10. 1909; Fern Fl. Phil. **1**: 26. 1958.

Marattia fraxinea Sm. sensu Sasaki, Trans. Nat. Hist. Soc. Formosa **26**: 64. 1936.

TAIWAN. Irararaisha, Botel Tobago Isl., Chôshun Sata s.n., Aug. 1932 (KYO).

New to the flora of Taiwan, hitherto known from the Philippines, also reported from New Caledonia but dubious.

Comparing with an authenticated specimen of *M. pellucida* from Luzon, Pteridophyta Philippinensia Exsiccata No. 208 distributed by E. B. Copeland, the Taiwan example, though fragmentary, appears to exhibit no particular difference.

The genus *Marattia* occupies a wide range of distribution in the tropics of both Old and New World. In the southeastern districts of Asia, it is represented by *M. sambucina* Bl. in Annam2), by *M. pellucida* Pr., *M. ternatea* de Vriese and *M. sylvatica* Bl. in the Philippines3), by *M. pellucida* Pr. on the island of Botel Tobago, and by *M. boninensis* Nakai and *M. tuyamae* Nakai in the Bonin Island4), but as yet not found in the mainland of Taiwan as well as South China; this fact may have something worthy of attention from the chorological point of view. The Bonin species are in need of revision.

(108) **Pteris venusta** Kunze, Bot. Zeit. **6**: 195. 1848; type from Java; Tard. et C. Chr. in Lecomte, Fl. Génér. Indo-China **7**²: 145. 1940.

Pteris matudae Masam. Trans. Nat. Hist. Soc. Formosa **25**: 12. 1935. Holotype: Kasanpo, Taiwan, E. Matuda s.n., Apr. 1, 1916, Herb. Nat. Taiwan Univ.!

According to Tardien-Blot & Christensen (loc. cit.), the range hitherto known is from Malaysia to North India and Indo-China.

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2) Tard. et C. Chr. in Lecomte, Fl. Génér. Indo-Chine **7**²: 28. 1939.

3) Copel. Fern Fl. Phil. **1**: 26. 1958.

4) Nakai, Journ. Jap. Bot. **13**: 3, 5. 1937.

Comparing with an authentically determind specimen (Pierre 5801 from Cochin-China) of *P. venusta*, and referring to the descriptions of that species given by Kunze and by Tardieu-Blot & Christensen, the writer knows that it would be impossible to distinguish *P. matudae* clearly from *P. venusta*; it appears to be representing rather small plant of the latter species.

Pteris matudae was very briefly described, even without any comparison with related species, on the basis of a single specimen consisting of only two fronds, large and small. The large frond may be in a rather small but well grown and fertile state: stipe over 30 cm long; lateral pinnae in two opposite pairs at an interval of about 4 cm, linear-lanceolate, gradually attenuate towards both ends, long acuminate and nearly caudate at the apex, the basal pinnae not furcate, about 20 cm long by 2.5 cm broad, sessile, the upper ones a little shorter, narrowly adnate at the base, the terminal pinna much longer, 30 cm long by 2.5 cm broad, gradually attenuate towards long acuminate and nearly caudate apex, acuminate at the base; texture chartaceous when dry; sterile margin albo-cartilagenous, minutely repand, never toothed; veins at a very broad angle to the midlib, very close together, mostly simple or rarely once forked, reaching to the margin. The small frond seems to be a dwarf and sterile one: stipe about 8 cm long; lateral pinnae in two opposite pairs at an interval of about 1.5 cm, narrowly oblong, 5 cm long by 1.8 cm broad or a little smaller, cuneate at the base, nearly obtuse at the apex, the upper ones narrowly adnate and short decurrent at the base, the terminal pinna 12.5 cm long by 2.5 cm broad, long acuminate at the apex, cuneate at the base. In spite of the presence of such differences in size and form of fronds, it is hardly possible to consider that the fronds of *P. matudae* are dimorphic in nature.

(109) **Pteris deltodon** Bak. Journ. Bot. **26**: 226. 1888, type from Szechuwan; Hu et Ching, Ic. Fil. Sin. **1**: pl. 32. 1930; Tard. et C. Chr. in Lecomte, Fl. Génér. Indo-Chine **7**^{2}: 145. 1940; Tagawa, Acta Phytotax. Geobot. **14**: 45. 1950.

Pteris trifoliata Christ, Bull. Herb. Boiss. **7**: 7. 1899, type from Yunnan, not of Fée 1857.—*Pteris nana* Christ in C. Chr. Ind. Fil. 603. 1906, substitute name of *P. trifoliata* Christ.

Japanese name. Kumagawa-inomotosô (K. Maebara nom. nov.).

JAPAN. Kyûshû. Pref. Kumamoto: Yaritaoshi Limestone Cave, Kuma-mura, Kuma-gun, Muraoka 61 (KYO); Oose-no-shônyûdô, Oose, Kuma-mura, Kuma-gun on dry limestone cliff at an entrance of limestone cave, Tagawa & Iwatsuki 3633

(KYO); Kônose, Kuma-mura, Kuma-gun, Ogata s.n., 26. VIII. 1932 (KYO); upper course of the Riv. Mae-gawa, Yamae-mura, Kuma-gun, on limestone clifff, Mayebara 6574 (KYO); Aman-gô, Itsuki-mura, Kumo-gun, on rather dry limestone cliff in light shade at an altitude of abobt 350 m, Tagawa & Iwatsuki 3842 (KYO).

New to Japan. Elsewhere known from Szechuwan, Kweichow, Yunnan, Tonkin, and Taiwan, also reported from Kwantung (after Hu et Ching, *loc. cit.*) but dubious.

P. deltodon seems to be an example of calciphilous plants. The above-quoted specimens from Japan, without exception, were collected on limestone. The writer has gathered several specimens of *P. deltodon* in Taiwan, where they are growing in lightly shaded crevices in limestone and other calcareous rocks; his Taiwan gatherings are as follows:

Prov. Kwarenkô: between Sakahen and Kirai, Kwaren-gun, alt. ca. 1000 m, Tagawa 3416 (KYO); between Totokun and Tosato, Tamazato-gun, alt. ca. 1700 m, Tagawa 3590 (KYO). Prov. Taitô: near Kakayo, Kwanzan-gun, alt. ca. 1000 m, Tagawa 3056, 3069 (KYO).

The writer once reported a fern from the Ryûkyûs as *P. deltodon*[5], but the Ryûkyû plant may certainly be a form of *P. ryukyuensis* Tagawa, Acta Phytotax. Geobot. **4**: 204. 1935.

(110) **Tectaria fauriei** Tagawa, Journ. Jap. Bot. **14**: 102. 1938, type from Taiwan (Faurie 67); Acta Phytotax. Geobot. **10**: 203. 1941.

RYÛKYÛ. Isl. Okinawa: upper course of the Riv. Afuso, Onna-mura, moist sandy place by stream in shade, Amano & Nakamura 7832 (KYO). Isl. Okinoerabu: Ootsukan, moist shady gravelly slope at an entrance of limestone cave, Tagawa & Iwatsuki 2211 (KYO).

New to the Ryûkyû Island; hitherto known from Taiwan only.

Closely related to *T. fauriei* is *T. vasta* (Bl.) Copel., ranging from Sikkim, Burma, and Yunnan south to Sumatra, Java and Borneo; differences between these two species were thoroughly discussed by Tagawa (*loc. cit.* 1938).

Christensen[6] and Holttum[7] found scaly buds on rachis in some specimens of '*T. vasta*' from Burma, Yunnan, and Siam. There may possibly be some doubt that such proliferous plants might be *T. fauriei*.

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[5] Acta Phytotax. Geobot. **4**: 205. 1935.

[6] Contr. U. S. Nat. Herb. **26**: 289, 1931.

[7] Fl. Malaya **2**; 513. 1954.

(111) **Pleocnemia pleiotricha** Holtt. Reinwardtia **1**: 182. figs. 12, 13, 1951, type from North Borneo.

Annam: Cu Lac, Quang Bihn, Cadière 15bis (KYO).

New to Annam; hitherto known from North Borneo and Mindanao (after Holttum, *loc. cit.*).

The above cited specimen is not particularly fine, representing only an apical part (about 40 cm long) of a frond. The perispore forming many small separate wings, the indusiate sori, the pinnules cut 2/3 to 3/4 way down to the costa into very blunt lobes, and the veins copiously glandular beneath, these features detected in Cadière's specimen are sufficient enough to ascribe it to *P. pleiotricha*.

(112) **Pleocnemia tripinnata** Holtt. Reinwardtia **1**: 185, figs. 18, 19. 1951, type from New Guinea.

PHILIPPINE. Luzon: Mt. Maquiling, Laguna Province, alt. 500 m, Pteridophyta Philippinensia Exsiccata No. 238 distributed by E. B. Copelend (KYO).

New to the Philippines; hitherto known from the type collection only.

The above cited specimen perhaps represents a subbasal pinna, the lower pinnules of which are fertile and agree well with the figures given by Holttum; perispore consists of many slender spines.

(113) **Diplazium chinense** (Bak.) C. Chr. Ind. Fil. 229. 1905; Tagawa, Acta Phytotax. Geobot. **10**: 290. 1941.—*Asplenium chinense* Bak. in Hook. et Bak. Syn. Fil. 237. 1867, type from East China.

RYÛKYÛ. Isl. Okinoerabu: Shimajiri, Hatusima & Sako 21698 (KAG); Oo-tsukan, Tagawa & Iwatsuki 2207 (KYO).

New to the Ryûkyû Islands; ranging from East China to Quelpaert and warm temperate regions of Japan.

On Isl. Okinoerabu, this fern is rather rare but locally abundant; according to the writer's experience on that island, it was always found on wet gravelly slope in shade at an entrance of limestone cave. This fact does not prove that *D. chinense* is a calciphilous fern, because it is ofen luxuriantly growing in noncalcareous habitat in Japan. The best environmental circumstances required by *D. chinense* seems to be found in a humid shady habitat, where it is not necessary to be calcareous. On Isl. Okinoerabu, we can find such habitat only at an entrance of limestone cave.

(114) **Microsorium steerei** (Harr.) Ching, Bull. Fan Mem. Inst. Biol. **4**: 306. 1933, excl. syn. *Polypodium aspidistrifrons* Hayata; Tard. et C. Chr. in

Lecomte, Fl. Génér. Indo-chine **7**^{2}: 484. 1941.——*Polypodium steerei* Harr. Journ. Linn. Soc. **16**: 32. 1877, type from Ape's Hill, Takow, Formosa; Takeda, Notes Roy. Bot. Edinb. **8**: 293. 1915.

Polypodium playfairii Bak. Ann. Bot. **5**: 474. 1891, type from Ape's Hill, Taiwan.

Polypodium aspidistrifrons Hayata sensu Ogata, Ic. Fil. Jap. **3**: pl. 133. 1930.

Rhizome short creeping, rather firm, the scales fuscous-brown, clathrate, firm-membranaceous, subentire, to 5 mm long, narrowed from ovate base under 1 mm wide to slender apex. Fronds approximate, oblanceolate or oblong-oblanceolate, 15–50 cm long by 3–10 cm wide, acute or short-acuminate or sometimes short-caudate-acuminate at the apex, gradually (or rarely somewhat abruptly) narrowed downwards and long decurrent upon the stipe, entire, sometimes repand, glabrous on both surfaces, very thick and fleshy; venation indistinct, the lateral main veins erect-patent, not prominent. Sori small, roundish, copious, irregularly scattered on free or anastomosing veinlets.

Described twice from Taiwan. Elsewhere known from Kwangsi, Kweichow, Tonkin, and Annam. So far as the writer knows, this fern appears to be of rare occurrence in Taiwan. The following are Taiwan specimens examined by the writer:

Prov. Shinchiku: Kappan-zan, Taikei-gun, Ogata s. n. (KYO); Uenoshima, Taiko-gun, Simozawa s. n., 14. VIIX. 1934 (KYO); ibid., Simozawa s. n., 19. VII. 1938 (KYO). Prov. Takao: Ape's Hill, Takow, A. Henry s. n. (TI).

The writer has never collected this fern in Taiwan and hence its habitat is unknown to him, but Ogata (*loc. cit.*) mentions that it occurs on steep rocky banks near streams in mountain forests.

M. steerei is certainly very nearly related to *M. punctatum* (L.) Copel., but the broadly oblanceolate fronds of fleshy texture and the nerrowly lanceolate rhizome scales to 5 mm long appear to characterize it sufficiently.

Ogata (*loc. cit.*) illustrated this fern very excellently under the name of *Polypodium aspidistrifrons* Hayata. Uncritically recognizing Ogata's identification, Ching (*loc. cit.*) and H. Ito⁸⁾ subsequently merged *P. aspidistrifrons* with *M. steerei*, but an examination of the holotype specimen of *P. aspidistrifrons* in TI leaves on doubt that it is merely a form of *M. punctatum*.

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8) Journ. Jap. Bot. **11**: 97. 1935.

(115) **Microsorium punctatum** (L.) Copel. Univ. Calif. Publ. Bot. **16**: 111. 1929; Ching, Bull. Fan Mem. Inst. Biol. **4**: 307. 1933; Ic. Fil. Sin. **2**: pl. 86. 1934; Tard. et C. Chr. in Lecomte, Fl. Génér. Indo-Chine **7**^{2}: 483. 1941; Holtt. Fl. Malaya **2**: 179. 1954.——*Acrostichum punctatum* L. Sp. Pl. ed. II. **2**: 1524. 1763, type from China.——*Polypodium punctatum* (L.) Sw. Schrad. Journ. Bot. **1800**^{2}: 21. 1801, not. Thunb. 1784.——*Polypodium lingulatum* Sw. Syn. Fil. 30. 1806, substitute name of *Acrostichum punctatum* L.

Polypodium irioides Poir. in Lam. Encycl. **5**: 513. 1804, type from Ile-de-France; Ogata, Ic. Fil. Jap. **3**: pl. 136. 1930.

Polypodium aspidistrifrons Hayata, Ic. Pl. Formos. **5**: 308. f. 123. 1915, type from Datetsu, Prov. Takao, Taiwan.

In Taiwan, this well known tropical fern of very wide distribution is mostly found in the central and the southern districts. It is not much common, growing on rocks or rocky banks or rarely on old tree trunks in rather dry, fairly open or lightly shaded places at minor altitude. Taiwan specimens examined by the writer are given below:

Prov. Kwarenkô: between Batakan and Busegan, Tatewaki & Kitamura s. n. (KYO); between Batakan and Tarokoguti, Tagawa 898 (KYO); between Sakadan and Siragan, Kwaren-gun, Tagawa 3733 (KYO); between Rokumei and Sanpû, Tamazato-gun, Tagawa 3702 (KYO). Prov. Taichû: between Tonpo and Namakaban, Tagawa 498 (KYO). Prov. Takao: Datetsu, Chôshû-gun, Soma s. n., type of *Polypodium aspidistrifrons* Hayata (TI); between Hôrai and Gani, Kizan-gun, Tagawa 1847, 1849, 1850, 1851, 1853 (KYO); between Tyûsinron and Doryûwan, Kizan-gun, Tagawa, 2044 (KYO); between Oogidaira and Sansaro in the basin of the Riv. Sangôkei, Kizan-gun, Tagawa 1852 (KYO); Tona, Kizan-gun, Tagawa 2043 (KYO); Bankinsing, Faurie 198 (KYO); Kurâru, Tagawa 919 (KYO); ibid., Honda & Ito s. n. (TI). Prov. Taitô: between Daibu and Tyatyagatoan, Tagawa 2901 (KYO); Isl. Kwashôtô, Kawakami & Nakahara 999 (TI).

In this species, fronds are very variable in their size and form, perhaps mainly due to environmental circumstances, but the scales on rhizome are constant in their size, form, and structure, and consequently they are, as is generally the case with Polypodiaceae s. str., most reliable in discriminating species.

Polypodium aspidistrifrons is a form of rather rare occurrence, approaching Linné's original diagnosis of *A. punctatum*, "frondibus cordato-lingulatis integerrimis supra punctatis." Fronds are lanceolate, broadest at or a little above the middle,

30–50 cm long by 4–7 cm wide, very gradually narrowed towards both ends, the base acute to obtuse, sometimes narrowly round to subcordate, the wingless stipe very short or almost wanting. Some fronds, therefore, bear slight resemblance to *M. steerei* (Harr.) Ching, but their rhizome scales, which are ovate-acuminate, irregularly denticulate and only about 2 mm long, prove that they are properly included in *M. punctatum*. Tagawa 498, 1849, 1850, 1851, and one more sheet, Taam 2052 (KYO) from Hongkong, are referable to this form.

○壹岐島の植物分布資料 (品川鉄摩) Tetsuma SHINAGAWA: Materials of plant distribution from Isl. Iki

壱岐島植物で，長崎県植物誌（外山：1940）に記載のなかった70余種については既に報告し現植物誌（1957）に収録されているが，その後判明したものもあるので，前報告にもれたものと合せて追補する。なお4, 5, 8, 10, 11, 12, 14, 17を除いた27種については，大井博士，伊藤(洋)博士，初島博士の同定を頂いたものであることを記し，ここに深く感謝の意を表します。

1) ヤクシホソバワダン *Crepidiastrixeris denticulato-lanceolata* 島の北部勝本町の海岸。2) ミツバヒヨドリバナ *Eupatorium chinense* var. *simplicifolium* f. *tripartitum* やゝ普通。3) ヨツバヒヨドリ *E. Glehni* 勝本町。4) ヒメアリドウシ *Damnacanthus indicus* var. *microphyllus* やゝ稀。5) シロバナコシオガマ *Phtheirospermum japonicum* f. *albiflorum* 勝本町。6) オオヒナノウスツボ *Scrophularia kakudensis* 島の北東男岳山。7) コシロネ *Lycopus coreanus* 普通。8) ウド *Aralia cordata* 山足など。9) アカネスミレ *Viola phalacrocarpa* 勝本町。10) ベニヒサカキ *Eurya japonica* f. *rubescens* 島の南部郷の浦町志原。 11) イチビ *Abutilon Avicennae* 島の北端鹿谷湾周辺の荒地などやや普通。12) クロガネモチ *Ilex rotunda* 各地の山中，幹囲2.5 mに達するものもあり。13) オオバヌスビトハギ *Desmodium austro-japonense* 島の中央住吉神社社叢。14) ハマエンドウ *Lathyrus maritimus* 島の西部郷の浦町沼津の海浜，東部海岸の八幡その他。 15) ゲンカイイワレンゲ *Orostachys genkaiensis* 島の東北部瀬戸浦の民家の屋根及び裏の崖。 16) イヌナズナ *Draba nemorosa* 南部郷の浦町。17) ヒメタデ *Polygonum erecto-minus* 芦辺町中山触。18) エゾノギシギシ *Rumex obtusifolius* 本誌**35**参照。19) オオバナノミミナグサ *Cerastium Fischerianum* 島の南端初瀬の海岸，細かくいえば変種ゲンカイミミナグサ。20) ハマツメクサ *Sagina Taquetii* 諸所の海浜。21) ハカタヤブマオ *Boehmeria grandissima* var. *serrulata* 島の南西渡良半島。22) ジャヤナギ *Salix eriocarpa* 低湿地。23) マヤラン *Cymbidium nipponicum* 島の南端鏡岳。24) ハナビゼキショウ *Juncus alatus* 勝本町，郷の浦。25) イトアオスゲ *Carex breviculmis* var. *discoidea* 勝本町新城。26) タチスゲ *Carex maculata* 同上。 27) ノゲヌカスゲ *C. mitrata* var. *aristata* 同上。 28) チョウセンハリイ *Eleocharis leviseta* 本誌 **34** 参照。29) ヒメヒラテンツキ *Fimbristylis autumnalis* 勝本町新城。30) ヒメタイヌビエ *Echinochloa Crus-galli* var. *Kasaharae* 勝本 31) タイワンカモノハシ *Ischaemum crassipes* var. *formosanum* 島の北東部海岸谷江川川口。32) エゾノサヤヌカグサ *Leersia oryzoides* 勝本町。33) ナガハグサ *Poa pratensis* 島の中央国分山。34) ヌカボガエリ *Polypogon hondoensis* 勝本町。35) イタチシダモドキ *Dryopteris Yabei* 南部郷の浦町など。（長崎県壱岐島郷の浦町）